

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/014546

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl<sup>7</sup> H05K3/46, H05K3/40, B05C11/02

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl<sup>7</sup> H05K3/46, H05K3/40, B05C11/02

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo Shinan Koho	1922-1996	Toroku Jitsuyo Shinan Koho	1994-2005
Kokai Jitsuyo Shinan Koho	1971-2005	Jitsuyo Shinan Toroku Koho	1996-2005

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X Y	JP 2003-133743 A (Matsushita Electric Industrial Co., Ltd.), 09 May, 2003 (09.05.03), Par. Nos. [0013] to [0018]; Figs. 1, 3 (Family: none)	1-3, 9, 24 4-8
Y	JP 11-220262 A (Matsushita Electric Industrial Co., Ltd.), 10 August, 1999 (10.08.99), Par. Nos. [0023] to [0025], [0067] to [0074], [0128] & US 6038133 A & US 6338767 B1 & US 2002/0036054 A1 & EP 0920058 A2	4, 6, 8

☒ Further documents are listed in the continuation of Box C.

☐ See patent family annex.

\* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance  
 "E" earlier application or patent but published on or after the international filing date  
 "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)  
 "O" document referring to an oral disclosure, use, exhibition or other means  
 "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention  
 "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone  
 "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art  
 "&" document member of the same patent family

Date of the actual completion of the international search  
09 February, 2005 (09.02.05)

Date of mailing of the international search report  
01 March, 2005 (01.03.05)

Name and mailing address of the ISA/  
Japanese Patent Office

Authorized officer

Facsimile No.

Telephone No.

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/014546

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JP 61-288498 A (Murata Mfg. Co., Ltd.), 18 December, 1986 (18.12.86), Page 2, upper right column, line 20 to lower left column, line 16; Fig. 3 (Family: none)	5
Y	JP 2003-243835 A (Hitachi Chemical Co., Ltd.), 29 August, 2003 (29.08.03), Par. Nos. [0006] to [0009], [0025]; table 1 (Family: none)	7
P, X	EP 1351301 A2 (MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.), 08 October, 2003 (08.10.03), Par. Nos. [0061], [0071] to [0081], [0099] to [0107]; Figs. 2, 6 & US 2003/0189246 A1 & JP 2004-6757 A Par. Nos. [0043], [0053] to [0063], [0081] to [0089]; Figs. 2, 6	1-3, 6, 8, 9, 24

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/JP2004/014546

## Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

The inventions of claims 2-9, and 24 relate to a module with an embedded component and a method of producing the module, where the module is embedded with an electronic component in a cavity formed in an electric insulation sheet and where a side face of a via conductor penetrating through the electric insulation sheet is continuous.

The inventions of claims 10-16 relate to a method of filling an electrically conductive resin paste in a via hole in an electric insulation sheet.

The inventions of claims 17-23 relate to bonding of a protection film in forming a via hole in an electric insulation sheet.

(continued to extra sheet)

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☒ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.: 1-9, and 24

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

**INTERNATIONAL SEARCH REPORT**

International application No.

PCT/JP2004/014546

Continuation of Box No.III of continuation of first sheet(2)

Further, a method of producing a module with an embedded component by the following method is disclosed in document JP 2003-133743 A (Matsushita Electric Industrial Co., Ltd.), 09 May, 2003 (09.05.03), paragraphs [0013]-[0018], Fig. 1, the method being forming a cavity in an electric insulation sheet, forming a via hole in the electric insulation sheet in a penetrating manner, filling an electrically conductive paste in the via hole, providing a first circuit board, on which an electronic component is mounted, on that surface of the electric insulation sheet in which the cavity is formed, providing a second circuit board on the opposite surface, and laminating them by heating and pressing.

Still further, forming a cavity in an electric insulation sheet by laminating another electric insulating sheet on one main surface of the electric insulation sheet, where a penetration section is formed, so as to cover the penetration section is a conventional well-known technique as described in JP 60-100454 A.

As a consequence, the invention of claim 1 makes no contribution over the prior art, and therefore, any matter dependent on claim 1 is not a special technical feature within the meaning of PCT Rule 13.2, second sentence. As a result, there exist no "special technical feature," within the meaning of PCT Rule 13.2, second sentence, common to the inventions of claims 1-24.